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CLAIMS

What is claimed is:

10 1. A method for communicating between computer bus modules comprising the
steps of:

converting native bus signals from a first computer module to a first point-
to-point interface;

conveying the bus signals using the first point-to-point interface to a bus
emulator;

15 conveying the bus signals from the bus emulator using a second point-to-
point interface to a second computer module; and

converting the bus signals received at the second computer to a native
form.

20 2. The method of Claim 1 wherein the step of converting native bus signals from
a first computer module to a first point-to-point interface comprises the steps
of:

monitoring the native bus signals in order to identify the beginning of a
data transfer cycle; and

25 accepting data and address signals from the native bus and serializing
these together with an indication of the type of transfer identified.

3. The method of Claim 1 wherein the step of conveying bus signals from the
bus emulator to a second computer module comprises the steps of:

30 receiving the bus signals from the first point-to-point interface in the bus
emulator;

translating the first point-to-point interface received in the bus emulator to
a bus structure internal to the bus emulator;

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5   conveying the bus signals received in the bus emulator by way of the first

point-to-point interface onto said bus structure; and

translating the bus signals carried on said bus structure to a second point-

to-point interface.

10   4.   The method of Claim 3 wherein the step of conveying the bus signals

received in the bus emulator by way of the first point-to-point interface onto

said bus structure comprises the steps of:

granting said bus structure to the first point-to-point interface if said bus

structure is available; and

15   propagating the bus signals translated from the first point-to-point interface

onto the bus structure if the bus structure is granted to said first point-to-

point interface.

5.   A computer system comprising:

20   plurality of point-to-point interface units comprising a computer module

interface and a point-to-point interface;

plurality of computer modules connected to the computer module interface

of the plurality of point-to-point interface units; and

bus emulator connected to the point-to-point interface of the plurality of

25   point-to-point interface units.

6.   The computer system of Claim 5 wherein the plurality of point-to-point

interface units comprise parallel-to-serial conversion units that operate upon

detecting the beginning of a data transfer cycle presented to the computer

30   module interface and wherein the parallel-to-serial conversion units accept a

data field and an address field and a cycle-type indicator from the computer

module interface.

5   7. The computer system of Claim 5 wherein the plurality of point-to-point interface units comprise high-current parallel drivers capable of propagating data, address and data transfer cycle requests.

8. The computer system of Claim 5 wherein the bus emulator comprises:

10   plurality of point-to-point interfaces interconnected by an internal bus.

9. The computer system of Claim 8 further comprising an arbiter for granting access to the internal bus to one of the plurality of point-to-point interfaces.

15   10. The computer system of Claim 8 further comprising a cascade port that connects to the internal bus and can be used to extend the length of the internal bus.

11. A computer module comprising a point-to-point interface.

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12. The computer module of Claim 11 wherein the point-to-point interface comprises:

parallel-to-serial conversion unit that operate upon detecting the beginning of a data transfer cycle presented to the computer module interface and

25   wherein the parallel-to-serial conversion units accept a data field and an address field and a cycle-type indicator from the computer module interface and delivers a serial output comprising a data transfer cycle to the point-to-point interface.

13. The computer module of Claim 11 wherein the point-to-point interface

30   comprises high-current parallel drivers capable of propagating data, address and data transfer cycle requests.

14. A point-to-point interface unit comprising a computer module interface and a point-to-point interface.

15. The point-to-point interface unit of Claim 14 further comprising parallel-to-serial conversion unit that operate upon detecting the beginning of a data transfer cycle presented to the computer module interface and wherein the parallel-to-serial conversion units accept a data field and an address field and a cycle-type indicator from the computer module interface and delivers a serial output comprising a data transfer cycle to the point-to-point interface.

16. The computer system of Claim 14 wherein the plurality of point-to-point interface units comprise high-current parallel drivers capable of propagating data, address and data transfer cycle requests.

17. A bus emulator comprising:
    internal bus; and
    plurality of point-to-point interfaces interconnected by the internal bus.

18. The bus emulator of Claim 17 an arbiter for granting access to the internal bus to one of the plurality of point-to-point interfaces.

19. The bus emulator of Claim 17 further comprising a cascade port connected to the internal bus and can be used to extend the length of the internal bus.